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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,348

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Dominic Walsh

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EXAMINER

PATEL, DEVANG R

ART UNIT

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1793

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,348	<b>Applicant(s)</b> WALSH ET AL.	
	<b>Examiner</b> DEVANG PATEL	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 34,35,37,38,40-42 and 47-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-35,37-38,40-42,47-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment and Arguments*

Applicant's arguments, see Appeal Brief filed 7/15/09, with respect to the rejection(s) of claim(s) 34 under Hoshino et al. in view of Gutjahr et al. and Jones et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in light of Winter et al.

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. **Claims 34-35, 37-38, 40-42 and 47-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter et al. (US 4010233) in view of Johnson (US 4904424).
  - a. **Regarding claim 34**, Winter et al. ("**Winter**") discloses a method of preparing a porous metal oxide fiber (where metal oxide fibers are equated to rod-shaped crystals of metal or metal oxide) material into a woven fabric, felt, mat or filter, suitable for use catalyst support (col. 14, lines 55-63; abstract). Such porous catalyst support material containing fibers is equivalent to rod-shaped, open framework, sponge-like material. Winter discloses preparing an aqueous viscous solution of water-soluble metal salt and organic solvent such as polysaccharides, starch, dextrin, polyvinyl alcohols, etc. (col. 3, lines 32-42;

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examples 3-9). Winter discloses allowing the solution to self-solidify to form a solid and baking the solid (examples; col. 13, lines 41-65).

b. Winter discloses various organic solvents but fails to expressly disclose dextran. **Johnson** (also drawn to making inorganic material including fibers) discloses preparing powdery metal alloy solution with a carbonaceous polymer and similar to Winter, Johnson teaches spinning the dispersion solution into fibers and then heating the fibers to form final product (col. 3, lines 16-35). As suitable carbonaceous materials, Johnson discloses polyvinyl alcohol, starch, dextran, polyvinyl acetate, such solvents being substantial similar to that taught by Winter (polyvinyl alcohol, starch, dextrin). Thus, one of ordinary skill in the art would appreciate that the organic solvents of Winter and Johnson are substitutes, as they comprise many of the same compounds, and serve substantially the same purpose. In view of that, it would have been obvious to a person of ordinary skill in the art at the time of the invention to prepare aqueous solution of a metal-salt and dextran in the method of Winter since the use dextran would have yielded predictable result of forming the fiber material.

c. **Claim 35** is substantially similar to claim 34 with the exception of including at least two kinds of water-soluble metal salts each having different metal elements. **Winter** discloses at least two kinds of water-soluble metal salts- lithium carbonate and aluminum salt (col. 19- example 10). The rejection of claim 34 is incorporated herein for the repeated limitations.

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- d. **As to claims 37-38**, Winter teaches heating at about 500-600 C (col. 13, line 55).
  - e. **As to claims 40-41**, Winter discloses metal salt concentration in the range of 15-60 wt% (examples).
  - f. **As to claim 42**, Johnson discloses the carbonaceous polymer having a molecular weight in the range of 30,000-300,000 (col. 5, lines 50-63). In view of that, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide dextran having a molecular weight in the instantly claimed ranges through process optimization in the method of Winter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.
  - g. **As to claim 47**, the metal oxide porous material of Winter is soft sponge-like material. It is noted that the terms "soft" or "hard" are relative and subject to broadest reasonable interpretation.
  - h. **As to claim 48**, Winter teaches the cross-sectional width (fiber diameter) being from 1-50 microns (col. 4, line 68).
  - i. **As to claim 49**, Winter discloses the metal salts including chromium salt (col. 4, line 35; Cr being transition metal).
2. **Claim 50** is rejected under 35 U.S.C. 103(a) as being unpatentable over Winter et al. (US 4010233) in view of Johnson (US 4904424) as applied to claim 34 above, and further in view of Thompson (US 3291753).

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j. **As to claim 50**, Winter or Johnson fails to disclose the metal element of the metal salt being selected from noble metals. However, such is well-known in the art. **Thompson** discloses absorbing a mixture of metal salts onto a carbon support in preparation for an electrode catalyst system (col. 1, line 15; col. 2, lines 28-37) and such electrode catalyst system is analogous to catalyst support of Winter. Specifically, Thompson teaches noble metal salts such as platinum salt and gold salt (col. 2, lines 50-61; example 1). One skilled in the art reading Winter as a whole would appreciate that Winter is not particularly concerned with specific metal salt and discloses a wide variety of metals salts (col. 3 and 4). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate a noble metal salt of Thompson in the solution of Winter in order to form a desired catalyst system for a targeted application.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The rejections above rely on the references for all the teachings expressed in the text of the references and/or one of ordinary skill in the art would have reasonably understood from the texts. Only specific portions of the texts have been pointed out to emphasize certain aspects of the prior art, however, each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

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Applicant is reminded to specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. 1.121; 37 C.F.R. Part 41.37; and MPEP 714.02.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVANG PATEL whose telephone number is (571)270-3636. The examiner can normally be reached on Monday thru Thursday, 8:00 am to 5:30 pm, EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devang Patel/  
Examiner, Art Unit 1793

/Jessica L. Ward/  
Supervisory Patent Examiner, Art Unit 1793